Musit Lab Usability Study

January 31st 2017

Musit Team

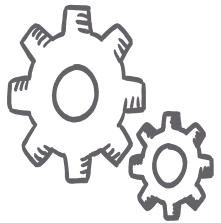
Juan Marroquin

Jared Wolens

Megan Wilson

James Geary

Pre-Lab:

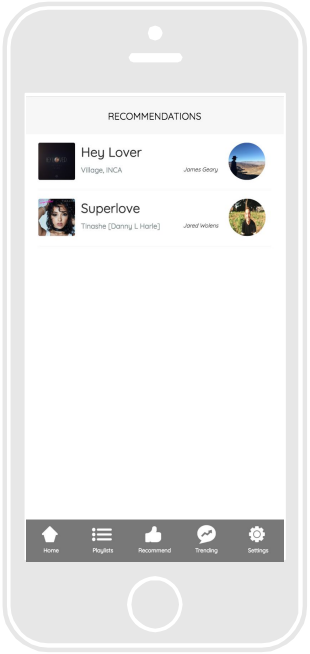


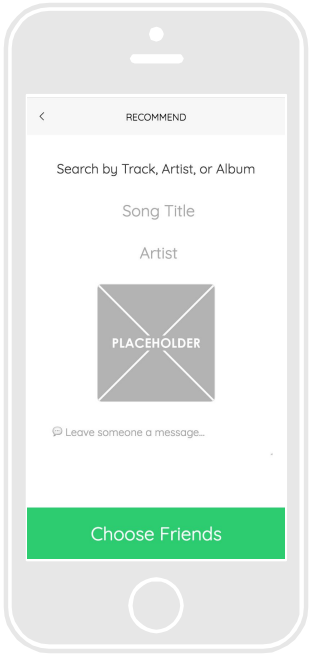
Prototype Updates

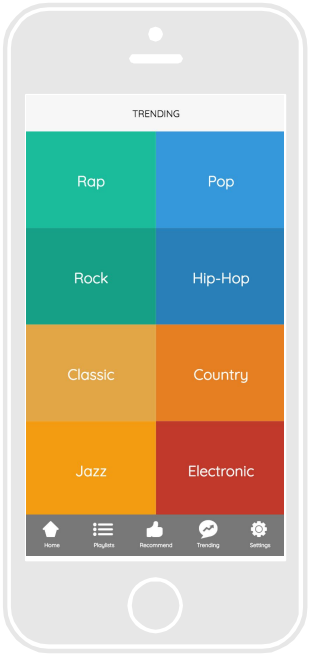
Implementation Updates

- **Web**: Angular / React Tandem Development
- **API**: Implement Spotify/EchoNest API for querying and autosearch completion
- **Back-End**: Remove hard-coded data for three **MongoDB** collections {Playlists, Recommendations, Users}
- **Front-End**: Flatter - high level aesthetic adjustment to comply more with Web rather than Android

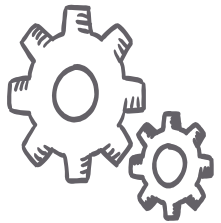
Quick View of Updates







Pre-Lab:



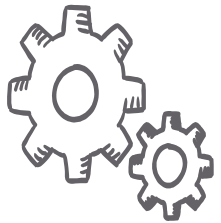
Usability Test Method

Procedure

- Intros
- Musit Overview
- Concept Video
- Explain Prototype Status
- For each task:
  - Describe task & provide example use case
  - Test task (Angular on iPhone, use Validately to track clicking)
- Debrief Questions

Pre-Lab:

Test Measures



Measure Categories:

- Evaluator Profile
- Ease with which users discover where to start each of the three tasks
- Users’ ability to complete the benchmark tasks without prompting
- Quality of Benchmark Tasks
- Overall Quality of Interview

Evaluator Profile

- Name
- Age
- Occupation
- Interest and Engagement with Music
  - Genre(s)
  - Frequency
  - Setting
  - Experience Sharing Music with Friends
- Current Platforms Used
- Relationship to *Musit* Team

Ease in Discovering Where to Start Tasks

- Time from home screen to first screen for the given task
- Mistakes and/or confusion in how to start task
- Questions asked while looking for where to start the task

Ability to Complete Benchmark Tasks

- Time to complete task
- Missteps/misclicks
- Indications and exclamations of confusion
- Questions asked while trying to complete the task
- Misc. comments and remarks while going through the task

Quality of Benchmark Tasks

Gauge how well we understand the goals and needs of our users by evaluating the three benchmark tasks we defined

Task Definition:

- questions/comments on task description
- nonverbal reactions to task description

Task Coverage:

- What did they not explore on our prototype that intrigued them?
- Any features related to sharing and suggestions that our app doesn't cover but should?

Overall Quality of Interview

How did our evaluator do? And how did the *Musit* team do?

General:

- Total Interview Time

Musit Team:

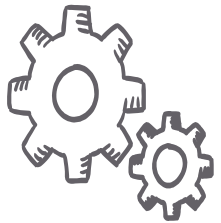
- Mishaps that impacted **accuracy** or **quality** of interview

Evaluator:

- Interest Level

Test Subjects:

Interviewees



Participant Profiles

Participant #1

- Age 22, Male
- Listens to music everyday
  ➜ speakers at home and in car
- Rock
- Spotify, CDs

Participant #2

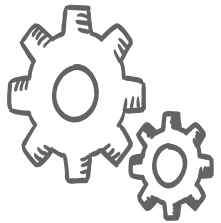
- Age 20, Female
- 90 min per day + Classwork (music minor)
- Folk, Classical, Indie-Pop
- Sharing: YouTube Links, Voice Memos
- 50% iTunes, 30% free Spotify, and 20% YouTube
- Free CD's from Braun

Participant #3

- Age 23, Female
- "Active listener, not a creator"
- Streaming and purchasing
- More invested if she purchases music
- Spotify, SoundCloud

Post-Lab:

Test Results



Task 1: Discover Trending Music by Location & Genre

- “What do you do to change location?”
- "Not a big country fan, would be nice if I could move around the tiles so I never have to see country"

Task 1: Discover Trending Music by Location & Genre

- “What do you do to change location?”
- "Not a big country fan, would be nice if I could move around the tiles so I never have to see country"
    - **Need to PERSONALIZE DISCOVERY**

“Not sure that the ‘trending’ feature adds much to your app, or I would at least say that it’s not personalized enough to make a big difference for me.”

Task 1: Takeaways

- May be more worthwhile to eliminate trending feature and focus on the interactions between users
- The goal of our app is to foster music-based *relationships*
    - trending feature doesn’t help accomplish that

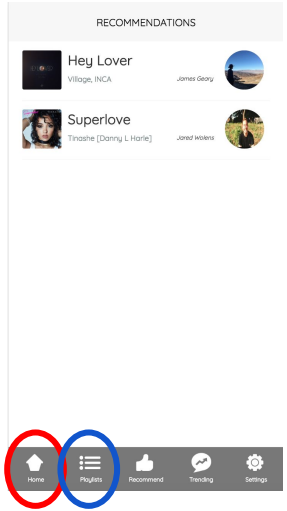
Task 2: Send Music to Friends' Playlists

- "So if the music isn't in your database, how do I recommend it?"
- “I don't really label my playlists. It would be nice if I knew what songs were already in the playlist so I don't send duplicates."
- “What if I want to just send a song without adding it to a playlist?”
- “I might want to do a bulk send of songs to one person. How do I do that?”

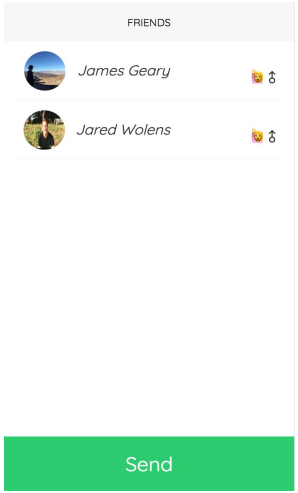
Task 2: Send Music to Friends' Playlists

- Allow users to just send name and artist if not in database
- Show a visual preview of songs, don't allow for duplicates
- Default playlist
- Add this functionality to bulk send songs to one person

Task 2: Send Music to Friends' Playlists



"So 'home' means 'recommendations'?



"Can I see all available playlists, rather than just friends?"

Task 2: Send Music to Friends' Playlists

- Refine what the home screen should display → something more informative and/or interactive than a list of recommendations
- Allow users to view all playlists they can contribute to when sending a song recommendation

Task 2: Takeaways

Aside from simple interface changes, how can we adjust the playlist task to meet the preferences of our users and match the *Musit* goal of fostering music-based relationships?

Task 2: Action Plan

- ➔ Make simple personalization changes suggested by evaluators

- ➔ Encourage **COLLABORATION**
  - ◆ Could be accomplished by restructuring **PERMISSIONS** for playlists, so they can be **as public or private or as collaborative or individualized as the user decides**.

Task 3: Solicit Suggestions by Creating Playlist

- “Can I seed it with a few songs so people know what I’m going for?”
- “Can I message someone in particular to help me with a playlist I started?”
- “How can I slow down recommendations?”

People are **NERVOUS** about soliciting suggestions from others.

Task 3: Solicit Suggestions by Creating Playlist

- “Alerts about recently-updated playlists or ones that haven’t been touched in a while might make me think of a song.”
- “Push notifications. So I know when I got help or need to give it.”
- “‘Morning’ could be a good playlist description. I need the name to establish the type of mood I’m in.”

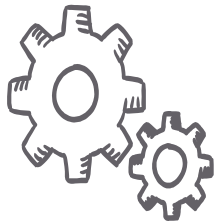
People need **CONSTANT INTERACTION** and **EMOTIONAL CONNECTION** to stay engaged.

Task 3: Takeaways and Actions

- ➔ Make a **HOME FEED** to keep users in tune with their friends' activity and needs
  - ◆ Ties back to Task 1 → **Personalized Trending**
- ➔ **Develop a communication schema for *Musit***
  - ◆ **Push notifications, threads, song tags, messages**

Post-Lab:

Discussion



Main Takeaways from Usability Study

- Trending seems to be an **unnecessary** service
  - Many express that this is a feature for **groups**
  - We want to remove the veil and make explicit *groups*
- **Home** is counter-intuitive
  - People expect a **feed** or some sort of communication channel
  - Can we make others **jealous** or feeling they are **missing out** in observing music exchanges to **keep them coming back**?
- Recommendation flow is **chunky**
  - People want a slimming of input -- using a singular search bar akin to most streaming services

Interesting Ideas from our Evaluators

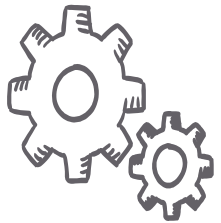
- Home Feed
- Groups
- Messaging
- Reactions
- Solicit Suggestions from a Particular Person
- Perhaps facilitate group members meeting in person ... concerts?

Plan Moving Forward

- “Trim the fat”
  - Remove features we’ve deemed excessive, such as Trending
- Solidify what friendships/communication looks like on *Musit*
- Prototype features from lab takeaway and implement usability studies
- Solidify external service integration
  - Pulling album art for recommendations, etc.

Post-Lab:

Wrapping Up

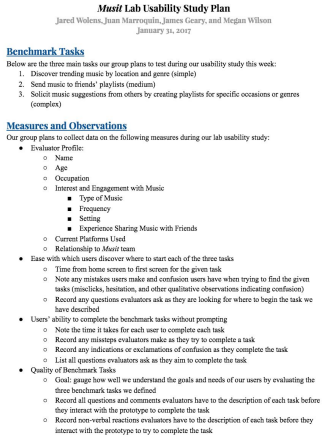


Usability Test Summary

- Positive feedback on design aesthetics and willingness to use the product
- Learned that we **need to focus on customization** and ensure that our main features help us toward our **goal of fostering music-based relationships**

Thank You!

Appendix I: Usability Test Plan



***Musit* Lab Usability Study Plan**

Jared Wolens, Juan Marroquin, James Geary, and Megan Wilson

January 31, 2017

Benchmark Tasks

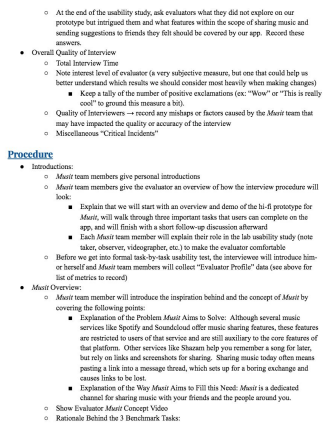
Below are the three main tasks our group plans to test during our usability study this week:

1. Discover trending music by location and genre (simple)
2. Send music to friends' playlists (medium)
3. Solicit music suggestions from others by creating playlists for specific occasions or genres (complex)

Measures and Observations

Our group plans to collect data on the following measures during our lab usability study:

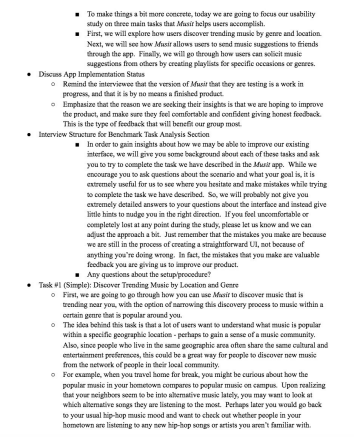
- Evaluator Profile:
  - Name
  - Age
  - Occupation
  - Interest and Engagement with Music
    - Type of Music
    - Frequency
    - Setting
    - Experience Sharing Music with Friends
  - Current Platforms Used
  - Relationship to *Musit* team
- Ease with which users discover where to start each of the three tasks
  - Time from home screen to first screen for the given task
  - Note any mistakes users make and confusion users have when trying to find the given tasks (misclicks, hesitation, and other qualitative observations indicating confusion)
  - Record any questions evaluators ask as they are looking for where to begin the task we have described
- Users' ability to complete the benchmark tasks without prompting
  - Note the time it takes for each user to complete each task
  - Record any missteps evaluators make as they try to complete a task
  - Record any indications or exclamations of confusion as they complete the task
  - List all questions evaluators ask as they aim to complete the task
- Quality of Benchmark Tasks
  - Goal: gauge how well we understand the goals and needs of our users by evaluating the three benchmark tasks we defined
  - Record all questions and comments evaluators have to the description of each task before they interact with the prototype to complete the task
  - Record non-verbal reactions evaluators have to the description of each task before they interact with the prototype to try to complete the task



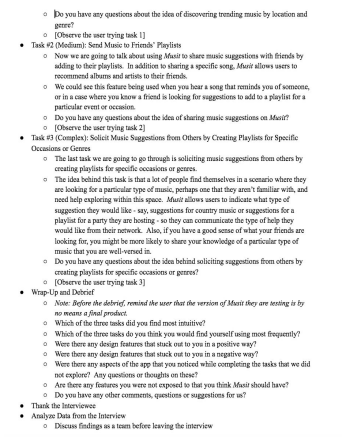
  - At the end of the usability study, ask evaluators what they did not explore on our prototype but intrigued them and what features within the scope of sharing music and sending suggestions to friends they felt should be covered by our app. Record these answers.
- Overall Quality of Interview
  - Total Interview Time
  - Note interest level of evaluator (a very subjective measure, but one that could help us better understand which results we should consider most heavily when making changes)
    - Keep a tally of the number of positive exclamations (ex: "Wow" or "This is really cool" to ground this measure a bit).
  - Quality of Interviewers -- record any mishaps or factors caused by the *Musit* team that may have impacted the quality or accuracy of the interview
  - Miscellaneous "Critical Incidents"

Procedure

- Introductions:
  - *Musit* team members give personal introductions
  - *Musit* team members give the evaluator an overview of how the interview procedure will look:
    - Explain that we will start with an overview and demo of the hi-fi prototype for *Musit*, will walk through three important tasks that users can complete on the app, and will finish with a short follow-up discussion afterward
    - Each *Musit* team member will explain their role in the lab usability study (note taker, observer, videographer, etc.) to make the evaluator comfortable
  - Before we get into formal task-by-task usability test, the interviewee will introduce him- or herself and *Musit* team members will collect "Evaluator Profile" data (see above for list of metrics to record)
- *Musit* Overview:
  - *Musit* team member will introduce the inspiration behind and the concept of *Musit* by covering the following points:
    - Explanation of the Problem *Musit* Aims to Solve: Although several music services like Spotify and Soundcloud offer music sharing features, these features are restricted to users of that service and are still auxiliary to the core features of that platform. Other services like Shazam help you remember a song for later, but rely on links and screenshots for sharing. Sharing music today often means pasting a link into a message thread, which sets up for a boring exchange and causes links to be lost.
    - Explanation of the Way *Musit* Aims to Fill this Need: *Musit* is a dedicated channel for sharing music with your friends and the people around you.
  - Show Evaluator *Musit* Concept Video
  - Rationale Behind the 3 Benchmark Tasks:



    - To make things a bit more concrete, today we are going to focus our usability study on three main tasks that *Musit* helps users accomplish.
    - First, we will explore how users discover trending music by genre and location. Next, we will see how *Musit* allows users to send music suggestions to friends through the app. Finally, we will go through how users can solicit music suggestions from others by creating playlists for specific occasions or genres.
- Discuss App Implementation Status
  - Remind the interviewee that the version of *Musit* that they are testing is a work in progress, and that it is by no means a finished product.
  - Emphasize that the reason we are seeking their insights is that we are hoping to improve the product, and make sure they feel comfortable and confident giving honest feedback. This is the type of feedback that will benefit our group most.
- Interview Structure for Benchmark Task Analysis Section
  - In order to gain insights about how we may be able to improve our existing interface, we will give you some background about each of these tasks and ask you to try to complete the task we have described in the *Musit* app. While we encourage you to ask questions about the scenario and what your goal is, it is extremely useful for us to see where you hesitate and make mistakes while trying to complete the task we have described. So, we will probably not give you extremely detailed answers to your questions about the interface and instead give little hints to nudge you in the right direction. If you feel uncomfortable or completely lost at any point during the study, please let us know and we can adjust the approach a bit. Just remember that the mistakes you make are because we are still in the process of creating a straightforward UI, not because of anything you're doing wrong. In fact, the mistakes that you make are valuable feedback you are giving us to improve our product.
  - Any questions about the setup/procedure?
- Task #1 (Simple): Discover Trending Music by Location and Genre
  - First, we are going to go through how you can use *Musit* to discover music that is trending near you, with the option of narrowing this discovery process to music within a certain genre that is popular around you.
  - The idea behind this task is that a lot of users want to understand what music is popular within a specific geographic location - perhaps to gain a sense of a music community. Also, since people who live in the same geographic area often share the same cultural and entertainment preferences, this could be a great way for people to discover new music from the network of people in their local community.
  - For example, when you travel home for break, you might be curious about how the popular music in your hometown compares to popular music on campus. Upon realizing that your neighbors seem to be into alternative music lately, you may want to look at which alternative songs they are listening to the most. Perhaps later you would go back to your usual hip-hop music mood and want to check out whether people in your hometown are listening to any new hip-hop songs or artists you aren't familiar with.



  - Do you have any questions about the idea of discovering trending music by location and genre?
  - [Observe the user trying task 1]
- Task #2 (Medium): Send Music to Friends' Playlists
  - Now we are going to talk about using *Musit* to share music suggestions with friends by adding to their playlists. In addition to sharing a specific song, *Musit* allows users to recommend albums and artists to their friends.
  - We could see this feature being used when you hear a song that reminds you of someone, or in a case where you know a friend is looking for suggestions to add to a playlist for a particular event or occasion.
  - Do you have any questions about the idea of sharing music suggestions on *Musit*?
  - [Observe the user trying task 2]
- Task #3 (Complex): Solicit Music Suggestions from Others by Creating Playlists for Specific Occasions or Genres
  - The last task we are going to go through is soliciting music suggestions from others by creating playlists for specific occasions or genres.
  - The idea behind this task is that a lot of people find themselves in a scenario where they are looking for a particular type of music, perhaps one that they aren't familiar with, and need help exploring within this space. *Musit* allows users to indicate what type of suggestion they would like - say, suggestions for country music or suggestions for a playlist for a party they are hosting - so they can communicate the type of help they would like from their network. Also, if you have a good sense of what your friends are looking for, you might be more likely to share your knowledge of a particular type of music that you are well-versed in.
  - Do you have any questions about the idea behind soliciting suggestions from others by creating playlists for specific occasions or genres?
  - [Observe the user trying task 3]
- Wrap-Up and Debrief
  - *Note: Before the debrief, remind the user that the version of Musit they are testing is by no means a final product.*
  - Which of the three tasks did you find most intuitive?
  - Which of the three tasks do you think you would find yourself using most frequently?
  - Were there any design features that stuck out to you in a positive way?
  - Were there any design features that stuck out to you in a negative way?
  - Were there any aspects of the app that you noticed while completing the tasks that we did not explore? Any questions or thoughts on these?
  - Are there any features you were not exposed to that you think *Musit* should have?
  - Do you have any other comments, questions or suggestions for us?
- Thank the Interviewee
- Analyze Data from the Interview
  - Discuss findings as a team before leaving the interview

Appendix II: Evaluator Profiles

***Musit* Lab Usability Study Plan: EVALUATOR PROFILES**

Evaluator #1:

Date: Friday 1/27
Time: 11am
Location: Lathrop Tech Lounge
Description of Interview Environment: open tech lounge space with desks and chairs

- **Name:** Kevin Bishop
- **Age:** 22
- **Occupation:** student
- **Email Address Associated with Amazon Account:** kbishop@stanford.edu
- **Interest and Engagement with Music:** listens every day
  - **Type of Music:** rock
  - **Frequency:** every day
  - **Setting:** home w/ speakers
  - **Experience Sharing Music with Friends:** car rides
- **Current Platforms Used:** Spotify, CDs
- **Relationship to *Musit* Team:** knows Megan from cross country team

Evaluator #2:

Date: Friday 1/27
Time: 1pm
Location: Lathrop Tech Lounge
Description of Interview Environment: open tech lounge space with desks and chairs

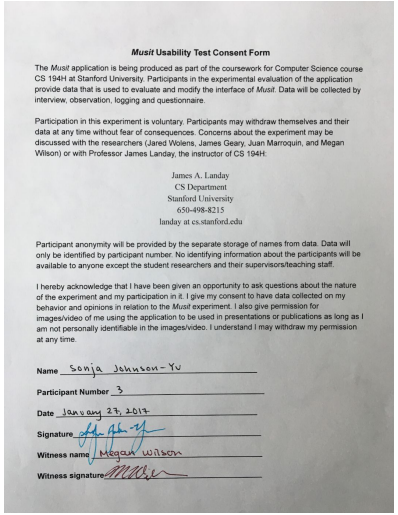
- **Name:** Sonja Johnson-Yu
- **Age:** 20
- **Occupation:** Student
- **Email Address Associated with Amazon Account:** sjohnsonyu@gmail.com
- **Interest and Engagement with Music:**
  - **Type of Music:** folk, classical, indie-pop
  - **Frequency:** every day, about an hour and a half a day recreationally, plus more for classes (Music minor)
  - **Setting:** during email, coding simple things, household chores
  - **Experience Sharing Music with Friends:** YouTube links (via iMessage, Facebook Messenger); one of friends sends his work via voice
- **Current Platforms Used:** occasionally listen to CDs in car (things that are free from Braun Music Library), about 50% iTunes, 30% free Spotify, and 20% YouTube
- **Relationship to *Musit* Team:** Recruited her via CS students email list

Evaluator #3:

Date: Friday 1/27
Time: 3pm - 4pm
Location: Lathrop Tech Lounge
Description of Interview Environment: open tech lounge space with desks and chairs

- **Name:** Karen Truong
- **Age:** 23
- **Occupation:** Student
- **Email Address Associated with Amazon Account:** kltruong93@gmail.com
- **Interest and Engagement with Music:** active listener, not a creator; streaming and purchasing
  → feels much more invested when she chooses to purchase
  - **Type of Music:**
  - **Frequency:**
  - **Setting:**
  - **Experience Sharing Music with Friends:**
- **Current Platforms Used:** Spotify, SoundCloud
- **Relationship to *Musit* Team:** Recruited through CS students email list

Appendix III: Evaluator Consent Forms



***Musit* Usability Test Consent Form**

The *Musit* application is being produced as part of the coursework for Computer Science course CS 194H at Stanford University. Participants in the experimental evaluation of the application provide data that is used to evaluate and modify the interface of *Musit*. Data will be collected by interview, observation, logging and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (Jared Wolens, James Geary, Juan Marroquin, and Megan Wilson) or with Professor James Landay, the instructor of CS 194H:

James A. Landay
CS Department
Stanford University
650-498-8215
landay at cs.stanford.edu

Participant anonymity will be provided by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the experiment and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the *Musit* experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time.

Name Sonja Johnson-Yu

Participant Number 3

Date January 27, 2017

Signature

Witness name Megan Wilson

Witness signature